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- (71) Applicant (for all designated States except US): SYNGENTA PARTICIPATIONS AG [CH/CH]; Schwarzwaldallee 215, CH-4058 Basel (CH).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): STAM, Lynn [US/US]; 2409 Pleasant Union Church Road, Raleigh, NC 27614 (US). KAMDAR, Kim, Puloma [US/US]; 56 Saint Botolph #303, Boston, MA 02116 (US). SPANAN, Eric [US/US]; 12721 Old Creedmoor Road, Raleigh, NC 27613 (US). BACHMANN, Jane [US/CH]; Schwarzwaldallee 215, CH-4058 Basel (CH).
- (74) Common Representative: SYNGENTA PARTICIPATIONS AG; Schwarzwaldallee 215, CH-4058 Basel (CH).
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(54) Title: NUCLEIC ACID SEQUENCES FROM DROSOPHILA MELANOGASTER THAT ENCODE PROTEINS ESSENTIAL FOR VIABILITY AND USES THEREOF

(57) Abstract: Nucleotide sequences are isolated from *Drosophila melanogaster* that code for proteins essential for viability. These proteins are useful for discovering new insecticides based on the essentiality of the nucleotide sequences for *Drosophila* viability. Further provided are recombinant proteins and methods for identifying inhibitors to these proteins. Protein inhibitors active in the methods disclosed herein are useful as insecticidal, ectoparasitocidal, antiparasitic, anthelmintic and acaricidal agents.